



SSM060 with failsafe
and feedback

SSM000 with feedback

Electromotoric actuators

SSM060
SSM000

For VPI46.. and VPP46.. , DN15 ... DN32

- Power supply AC/DC 24 V
- Minimum force 120 N [27lbs]
- Analog control mode
- Patented Enerdrive Fail-Safe System (SSM060)
- Linear or equal percentage curve (configurable)
- Manual override
- Direct or reverse acting (configurable)
- Status LED
- Standard cable 1 meter (3.2 ft) long
- Easy installation, no tools required
- Small size for easy installation in limited space
- Stall-proof, maintenance free
- IP54 enclosure

Use

For commercial building HVAC water system with combi valve VPI46.. and VPP46..

Type summary

Type	Designation
SSM000	Electromotoric actuator (without failsafe)
SSM060	Electromotoric actuator (with failsafe)

Ordering

When ordering, please specify the type and quantity.

Example:

Type	Designation	Quantity
SSM000	Electromotoric actuator (without failsafe)	x

Equipment combinations

Type reference	Valve type	\dot{V} [l/h]	PN class	Data sheet
VPP46.., VPI46..	Combi valves	30...4001	PN 25	N4855

\dot{V} = Nominal volume flow at 0.5 mm stroke

Product documentation

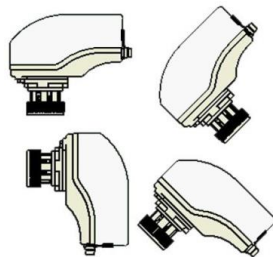
Topic	Title	Document ID
Mounting and installation	Mounting instructions	A6V11645999

Notes

Mounting

Mounting instructions (A6V11645999) are enclosed in the product packaging.

Correct mounting



Incorrect mounting



⚠ WARNING

Do not install at more than 90° from horizontal.

Assembly

The actuated valve installation should be easily accessible and provide sufficient clearance for service and replacement.

Horizontal and vertical positions are preferred for the installation of actuated valve. However, this actuator can be installed at any in-between angle.



1. Mount the valve adaptor to the valve and finger-tighten only. **DO NOT use wrench or any other tool!**
2. Rotate the knob clockwise to open the valve.
3. Do NOT force the knob in either direction!
4. Manually adjust the knob to test piping network.
5. Once the network is working properly, engage the actuator over the valve adaptor and turn 30° clock-wise. You should hear an audible click.

To disengage the actuator, press the release button while turning the actuator counter-clockwise 30°.

Caution:

The actuator is specially calibrated to its adaptor. **DO NOT exchange the original adaptor with a different actuator.**



WARNING

- Connect the actuator to its adaptor and mount it on a valve before applying power. Failure to do so results in incorrect operation of the actuator.
- Improper use of mechanical tools or application of excessive force to tighten the adaptors on the valves leads to structural damage of the adaptor, which could lead to failure over time.
- Do not add insulation foam beyond the chrome ring or around the adaptor. Improper installation of insulation material leads to a build-up of condensate water around the valve and the chrome ring of the adaptor, which leads to build up of rust and compromise the structure of the chrome ring that holds the adaptor.

Installation

- The admissible temperatures (see “Technical data [→ 8]”) must be observed.
- The cable should not be twisted.
- Magnets can damage the actuator.
- A means of isolation from the power supply must be provided, for example: connecting a circuit breaker or switch fuse upstream of the control unit.



CAUTION

National safety regulations

Failure to comply with national safety regulations may result in personal injury and property damage.

- Observe national provisions and comply with the appropriate safety regulations.



CAUTION

When multiple actuators are wired on a single transformer, polarity must be observed. Long wiring runs create voltage drop which may affect the actuator performance.

Commissioning

- Check wiring.
- Check the functions of the actuator.

DIP witches

Each model has a different number of DIP switches, which are located behind the translucent silicone cap at the back of the actuator. Read the following sections carefully for detailed information on the different options. The DIP switches can be changed at any time. The changed option (DIP switch setting) takes effect immediately. If a change is made during an Auto-Stroke sequence, the change takes effect once the Auto-Stroke sequence is completed (up to 240 seconds).

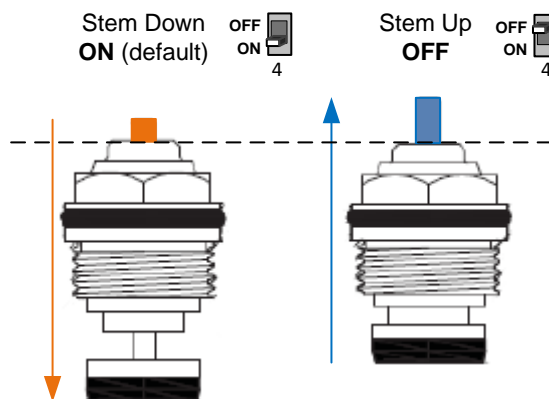
Enerdrive Fail Safe System

The Enerdrive system is a patented method of storing energy (using super capacitors) that is later used to drive the actuator to its failsafe position during a power failure. It takes approximately 90 seconds to fully charge the Enerdrive system. With the restoration of power, the actuator immediately resumes operation and the Enerdrive system is recharged. Use the Failsafe Direction DIP switch (#4) to set the actuator to respond according to the application requirements.

Failsafe Direction

Final position during failsafe operation

Failsafe Direction DIP Switch (#4)



Auto-stroke

Analog actuators perform an Auto-Stroke sequence upon every power-up. The Auto-Stroke sequence runs from 0 to the end position and back in order to automatically detect the stroke limits and calibrate the input signal to the detected stroke limits. The Auto-Stroke sequence can take up to a maximum of 2 minutes to complete.



During the Auto-Stroke sequence, the status LED remains on and the actuator will not perform any other action.



CAUTION

If the actuator and/or adaptor are removed from the valve after initial installation, an Auto-Stroke sequence must be initiated to recalibrate the actuator. To do so, remove and reapply the power.

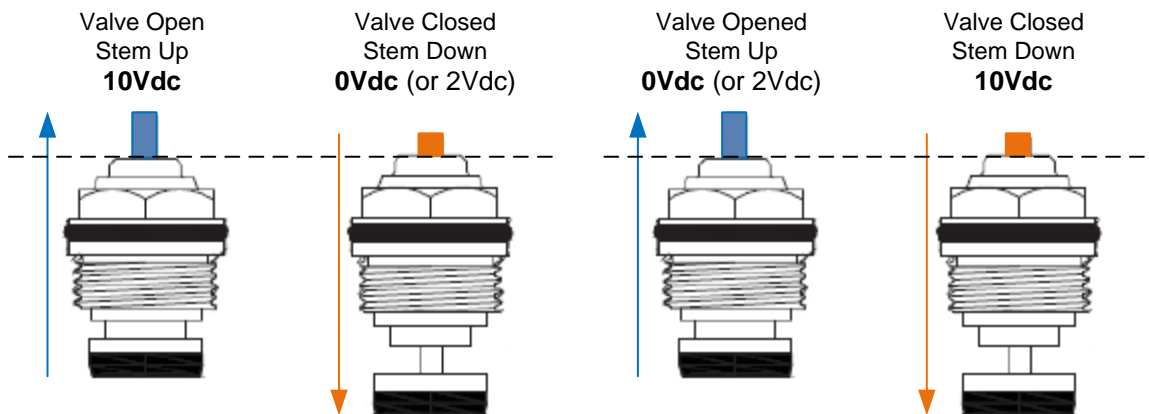
Rotation Direction

The motor direction for analog actuators is reversible. By default, the actuator is set to reverse acting (DIP switch #1 = ON).

Reverse Acting (default)
DIP Switch #1 = ON



Direct Acting
DIP Switch #1 = OFF



SSM000

1) Rotation Direction

OFF: Valve Norm. Open (up at 0Vdc)
ON: Valve Norm. Closed (down at 0Vdc)

DIP Switches

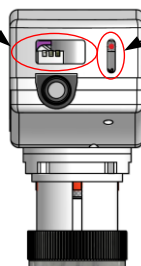


2) Curve Selection

OFF: Linear
ON: Equal percentage

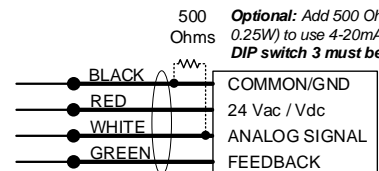
3) Input Analog Signal & Feedback

OFF: 2-10 Vdc
ON: 0-10 Vdc



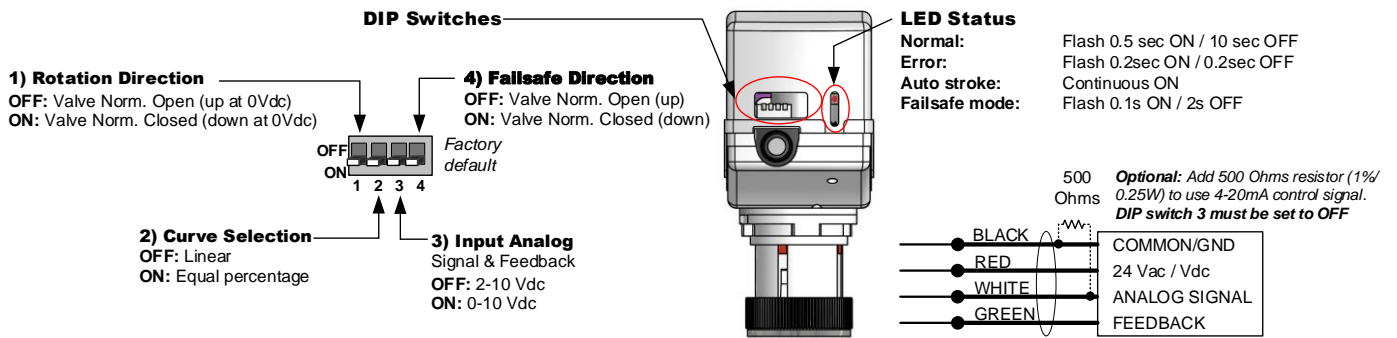
LED Status

Normal: Flash 0.5 sec ON / 10 sec OFF
Error: Flash 0.2sec ON / 0.2sec OFF
Auto stroke: Continuous ON



Optional: Add 500 Ohms resistor (1%/0.25W) to use 4-20mA control signal. **DIP switch 3 must be set to OFF**

SSM060



The patented Enerdrive Fail-Safe System uses super capacitors to store energy for fail-safe operation. Please note that super capacitors require 90 seconds to charge after a power up or after discharging.



CAUTION

We strongly recommend that all products be wired to a separate transformer and that transformer shall service only these products. This precaution will prevent interference with, and possible damage to incompatible equipment.

- When multiple actuators are wired on a single transformer, polarity must be observed.
- Long wiring runs create voltage drop which may affect the actuator performance.

Maintenance

The actuators are designed for maintenance-free operation.



WARNING

The operating voltage must be switched off during any maintenance process!

When carrying out service work on the plant, following must be noted:

- Turn power off (e.g. remove the plug)
- If necessary, disconnect electrical connections from the terminals
- The actuator must be commissioned only with a correctly mounted valve in place
- Faulty actuators cannot be repaired and must be replaced by complete units
- The actuator can be replaced without removing the valve

Disposal



The valve is considered an electronic device for disposal in accordance with the European Guidelines and may not be disposed of as domestic garbage.

- Dispose of the valve through channels provided for this purpose.
- Comply with all local and currently applicable laws and regulations.

Warranty

Technical data on specific applications are valid only together with Siemens products listed under "Equipment combinations". Siemens rejects any and all warranties in the event that third-party products are used.

Technical data

Power supply	
Operating voltage	AC/DC 22...26 V
Power consumption	SSM000: 5 VA SSM060: 10 VA peak, 6 VA

Signal input	
Control mode and signal	Analog, DC 0...10 V or DC 2...10 V 4...20 mA with externally wired 500 Ω resistor
Feedback signal	DC 0...10 V or DC 2...10 V

Operating data	
Running time	18.5 s/mm, 120 s for 6.5 mm
Failsafe running time	SSM000: no failsafe SSM060: 9.2 s/mm, 60 s for 6.5 mm
Flow characteristic curve	Linear and equal percentage configurable
Direction	Reversible, normally up position (close) or normally down position (open)
Minimum force	120 N (27 lbs)
Maximum stroke	Up to 6.5 mm (1/4 in), self adjustable
Permissible temperature of medium in the connected valve	2...120 $^{\circ}$ C (36...248 $^{\circ}$ F)

Electrical connection	
Connecting cable	4-wire, halogen-free cable 0.8 mm ² (18 AWG), 1 m (3.2 ft) long

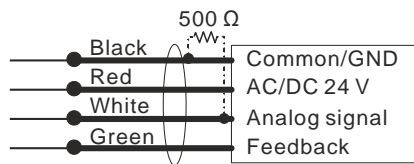
Standards	
Ingress protection	IP 54 equivalent to NEMA type 3R

General ambient conditions	
Ambient temperature	2...50 $^{\circ}$ C (36...122 $^{\circ}$ F)
Storage temperature	-30...50 $^{\circ}$ C (-22...122 $^{\circ}$ F)
Relative humidity	5...95%, non condensing

General	
Housing color (cover)	White RAL9010
Weight	SSM000: 0.24 kg [0.53 lbs.] SSM060: 0.3 kg [0.66 lbs.]

Diagrams

Connection terminals

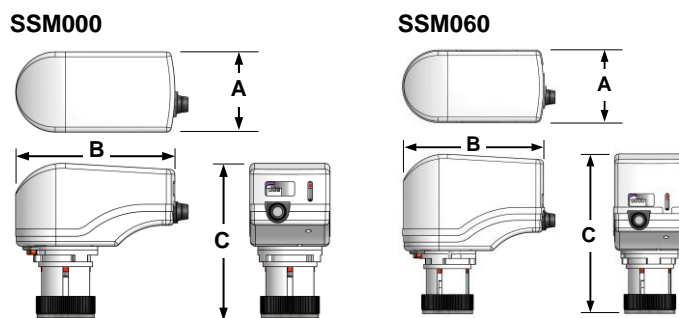


Optional:

Add 500 Ω resistor (1%/0.25 W) to use 4...20 mA control signal.

DIP switch 3 must be set to OFF.

Dimensions



Dimensions	A	B	C
SSM000	2.08" (53 mm)	4.09" (104 mm)	3.62" (92 mm)
SSM060	2.08" (53 mm)	4.09" (104 mm)	4.18" (107 mm)